



California Cooperative  
Snow Surveys  
Bulletin 120-4-95

State of California  
The Resources Agency

Department of  
Water Resources

# Water Conditions in California

## Report 4 May 1, 1995



**Pete Wilson**  
Governor  
The Resources Agency

**Douglas P. Wheeler**  
Secretary for Resources  
State of California

**David N. Kennedy**  
Director  
Department of Water Resources

# STATE OF CALIFORNIA

Pete Wilson, Governor

## THE RESOURCES AGENCY

Douglas P. Wheeler, Secretary for Resources

### Department of Water Resources

David N. Kennedy, Director

John J. Silveira  
Deputy Director

Robert G. Potter  
Chief Deputy Director

Carlos Madrid  
Deputy Director

L. Lucinda Chipponeri  
Assistant Director for Legislation

Susan N. Weber  
Chief Counsel

### Division of Flood Management

George T. Qualley ..... Chief  
Maurice Roos ..... Chief Hydrologist  
Gary Hester ..... Chief Forecaster

#### Prepared by

Frank Gehrke ..... Chief, Snow Surveys  
Robert R. Newton ..... Associate Engineer, W.R.  
Matthew S. Colwell ..... Associate Engineer, W.R.  
David M. Hart ..... Water Resources Engineering Associate  
Dudley E. McFadden ..... Assistant Engineer, W.R.  
Shawn T. Perkins ..... Water Resources Technician II

### COOPERATING AGENCIES

#### Public Agencies

Buena Vista Water Storage District  
Central California Irrigation District  
East Bay Municipal Utility District  
Friant Water Users Association  
Kaweah Delta Water Conservation District  
Kern Delta Water District  
Kings River Conservation District  
Lower Tule River Irrigation District  
Merced Irrigation District  
Nevada Irrigation District  
North Kern Water Storage District  
Northern California Power Agency  
Oakdale Irrigation District  
Omoichumne-Hartnell Water District  
Oroville-Wyandotte Irrigation District  
Placer County Water Agency  
South San Joaquin Irrigation District  
Tri-Dam Project  
Tulare Lake Basin Water Storage District  
Turlock Irrigation District  
Yuba County Water Agency  
West Basin Municipal Water District  
**Private Organizations**  
J.G. Boswell Company  
Kaweah River Association  
Kings River Water Association  
St. Johns River Association

#### Tule River Association

State Water Contractors

#### Municipalities

City of Bakersfield

Water Department

City of Los Angeles

Department of Water and Power

City and County of San Francisco

Hetch Hetchy Water and Power

#### State Agencies

California Department of Forestry & Fire Protection

California Department of Water Resources

#### Federal Agencies

U.S. Department of Agriculture

Forest Service(14 National Forests)

Pacific Southwest Forest and Range Experiment Station

Resource Conservation Service

U.S. Department of Commerce

National Weather Service

U.S. Department of Interior

Bureau of Reclamation

Geological Survey, Water Resources

National Park Service(3 National Parks)

U.S. Department of Army

Corps of Engineers

#### Other Cooperative Programs

Nevada Cooperative Snow Surveys

Oregon Cooperative Snow Surveys

## SUMMARY OF WATER CONDITIONS

**May 1, 1995**

The seasonal runoff outlook was tracking close to the forecast until the last couple of days of April when a relatively warm moist storm system dumped liberal amounts of rain on Northern California. As a result, extra flood control releases were made at many reservoirs and the May 1 runoff forecasts have been increased. This year is the wettest since 1983 with ample water supplies to fill all but a couple of the State's reservoirs.

**Forecasts** of April through July runoff have been raised 25 percent from one month ago to 190 percent statewide. All regions are much above average. The forecasts include the effect of the month-end storm ending May 2. Last year's April through July forecasts were only 45 percent of average. This water year runoff is forecast to be 180 percent of average which would make this the fourth wettest year of record (since 1906) in the Sacramento and San Joaquin river regions.

**Snowpack** water content is 215 percent of the May 1 average and 160 percent of the April 1 average. About a 10 percent reduction in actual water content statewide took place in April but this was less than the normal rate of melting during the month. Many high elevation areas gained water. Last year the snowpack was 30 percent of average.

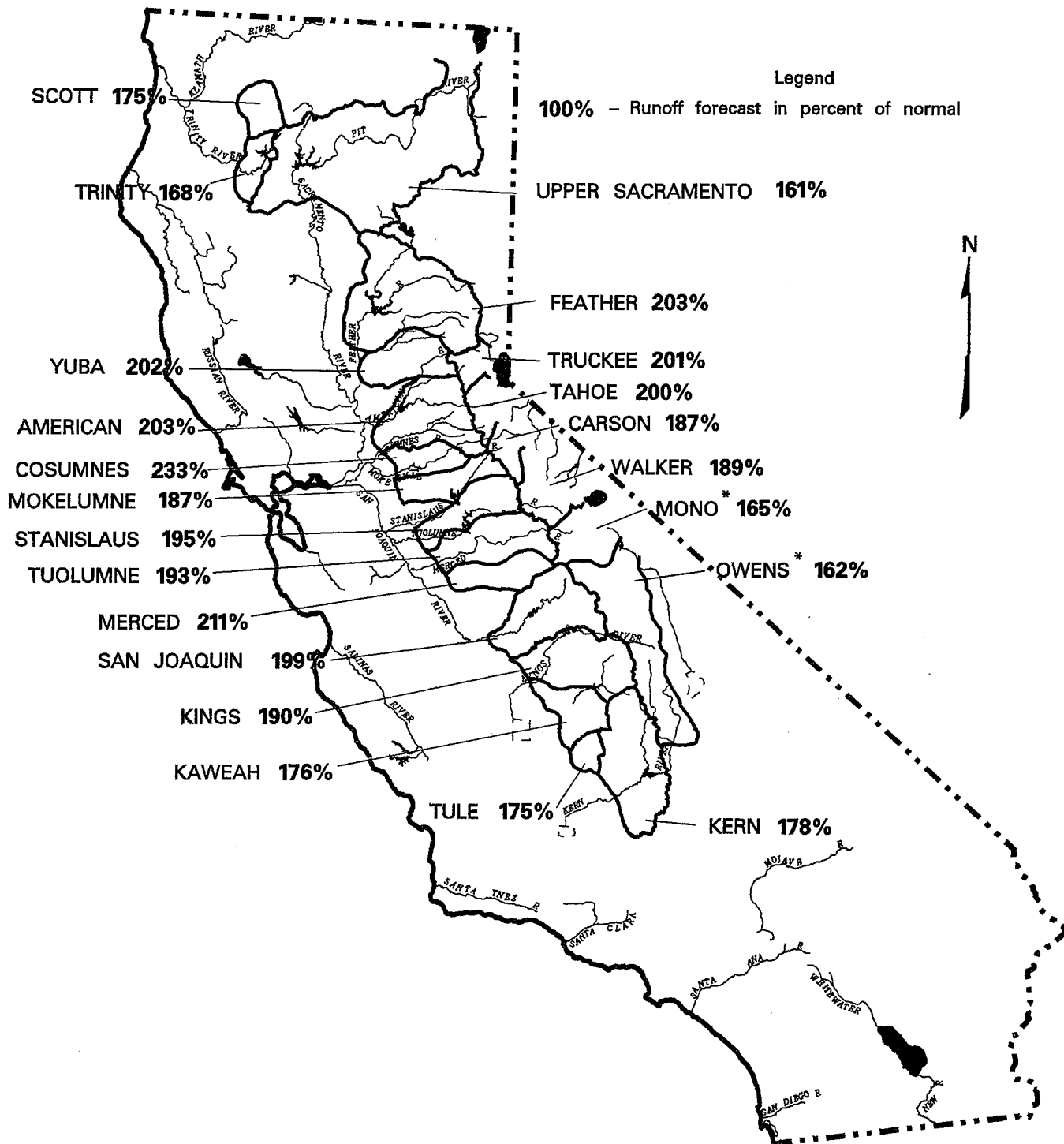
**Precipitation** during April was about 165 percent of average with many mountain areas of Northern California exceeding twice average. Seasonal precipitation since October 1 is about 165 percent of average, the same as one month ago and about 2 1/2 times the 65 percent registered last year at this time.

**Runoff** this season is 170 percent of average compared to 40 percent last year. April runoff was about 1 1/2 times average for the month. Estimated runoff during April of the 8 major rivers of the Sacramento and San Joaquin River regions was approximately 5.6 million acre-feet.

**Reservoir storage** gained 1.2 million acre-feet during April and is about 110 percent statewide. Last year storage stood at 90 percent. Continued filling at many major reservoirs was restrained by flood control requirements.

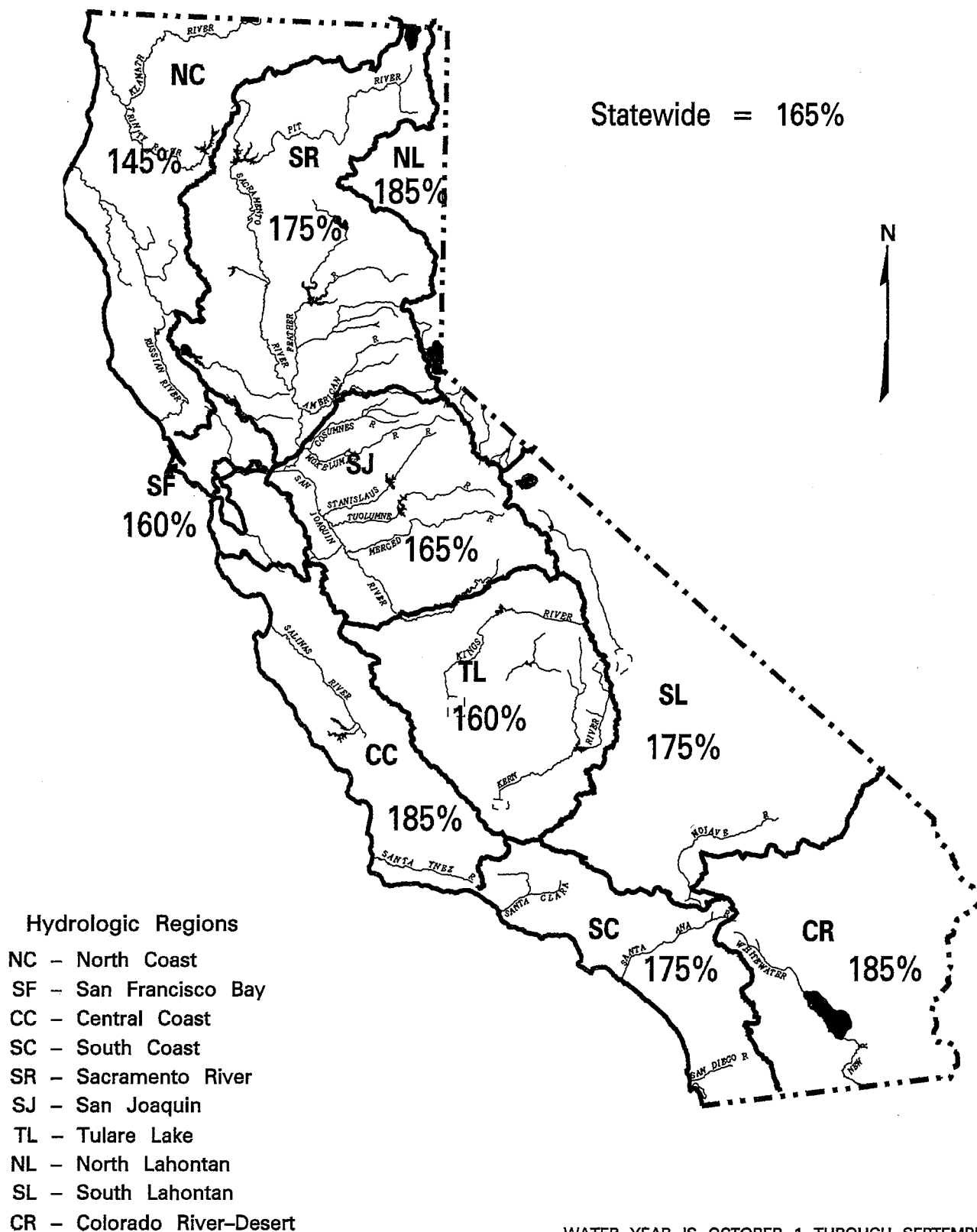
SUMMARY OF WATER CONDITIONS						
IN PERCENT OF AVERAGE						
HYDROLOGIC REGION	PRECIPITATION OCTOBER 1 TO DATE	MAY 1 SNOW WATER CONTENT	MAY 1 RESERVOIR STORAGE	RUNOFF OCTOBER 1 TO DATE	APR-JULY RUNOFF FORECAST	WATER YEAR RUNOFF FORECAST
NORTH COAST	145	185	110	155	170	160
SAN FRANCISCO BAY	160	--	125	230	--	--
CENTRAL COAST	185	--	110	205	--	--
SOUTH COAST	175	--	140	250	--	--
SACRAMENTO RIVER	175	210	110	175	190	180
SAN JOAQUIN RIVER	165	235	110	185	200	200
TULARE LAKE	160	200	120	150	185	185
NORTH LAHONTAN	185	215	55	140	195	175
SOUTH LAHONTAN	175	250	90	90	165	160
COLORADO RIVER-DESERT	185	--	--	--	--	--
STATEWIDE	165	215	110	170	190	180

**FORECAST OF APRIL - JULY  
UNIMPAIRED SNOWMELT RUNOFF  
May 1, 1995**



\* FORECAST BY DEPARTMENT OF WATER AND POWER, CITY OF LOS ANGELES

**SEASONAL PRECIPITATION**  
 IN PERCENT OF AVERAGE TO DATE  
 October 1, 1994 through April 30, 1995



WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

**MAY 1, 1995 FORECASTS  
APRIL-JULY UNIMPAIRED RUNOFF**

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)					
	HISTORICAL			FORECASTS		
	50 Yr Avg (2)	Max of Record	Min of Record	Apr-Jul Forecasts	Pct of Avg	80 % Probability Range (1)
<b>SACRAMENTO RIVER</b>						
<b>Upper Sacramento River</b>						
Sacramento River at Shasta Lake	297	702	39	460	155	
McCloud River at Shasta Lake	411	850	185	580	141	
Pit River at Shasta Lake	1,062	1,796	480	1,540	145	
Total Inflow to Shasta Lake	1,824	3,189	726	2,940	161	2,700 - 3,250
<b>Sacramento River above Bend Bridge, near Red Bluff</b>	2,491	4,674	943	4,170	167	3,850 - 4,650
<b>Feather River</b>						
Feather River at Lake Almanor near Prattville	333	675	120	590	177	
North Fork at Pulga	1,028	2,416	243	1,960	191	
Middle Fork near Clio (3)	86	518	4	170	198	
South Fork at Ponderosa Dam	110	267	13	230	209	
Total Inflow to Oroville Reservoir	1,857	4,676	392	3,770	203	3,550 - 4,070
<b>Yuba River</b>						
North Yuba below Goodyears Bar	286	647	51	560	196	
Inflow to Jackson Mdws and Bowman Reservoirs	112	236	25	210	188	
South Yuba at Langs Crossing	233	481	57	400	172	
Yuba River at Smartville	1,047	2,424	200	2,120	202	2,000 - 2,260
<b>American River</b>						
North Fork at North Fork Dam	262	716	43	520	198	
Middle Fork near Auburn	522	1,406	100	1,060	203	
Silver Creek Below Camino Diversion Dam	173	386	37	340	197	
Total Inflow to Folsom Reservoir	1,284	3,074	229	2,610	203	2,500 - 2,760
<b>SAN JOAQUIN RIVER</b>						
<b>Cosumnes River at Michigan Bar</b>	129	363	8	300	233	270 - 330
<b>Mokelumne River</b>						
North Fork near West Point (4)	437	829	104	750	172	
Total Inflow to Pardee Reservoir	465	1,065	102	870	187	830 - 930
<b>Stanislaus River</b>						
Middle Fork below Beardsley Dam	334	702	64	640	192	
North Fork Inflow to McKays Point Dam	224	503	34	420	188	
Total Inflow to New Melones Reservoir	713	1,710	116	1,390	195	1,320 - 1,480
<b>Tuolumne River</b>						
Cherry Creek and Eleanor Creek near Hetch Hetchy	322	727	97	560	174	
Tuolumne River near Hetch Hetchy	606	1,392	153	1,100	182	
Total Inflow to New Don Pedro Reservoir	1,200	2,682	301	2,320	193	2,200 - 2,450
<b>Merced River</b>						
Merced River at Pohono Bridge	362	888	80	710	196	
Total Inflow to Lake McClure	617	1,587	123	1,300	211	1,250 - 1,370
<b>San Joaquin River</b>						
San Joaquin River at Mammoth Pool (5)	1,014	2,279	235	1,920	189	
Big Creek below Huntington Lake (5)	95	264	11	180	189	
South Fork near Florence Lake (5)	202	511	58	360	178	
Total Inflow to Millerton Lake	1,228	3,355	262	2,440	199	2,330 - 2,560
<b>TULARE LAKE</b>						
<b>Kings River</b>						
North Fork Kings River near Cliff Camp	239	565	50	450	188	
Total Inflow to Pine Flat Reservoir	1,203	3,114	273	2,280	190	2,170 - 2,380
<b>Kaweah River at Terminus Reservoir</b>	284	814	61	500	176	470 - 540
<b>Tule River at Success Reservoir</b>	63	256	2	110	175	100 - 125
<b>Kern River</b>						
Kern River near Kernville	373	1,203	83	660	177	
Total Inflow to Isabella Reservoir	461	1,657	84	820	178	760 - 870

(1) See inside back cover for definition

(2) All 50 year averages are based on years 1941-1990 unless otherwise noted

(3) 44 year average based on years 1936-79

(4) 36 year average based on years 1936-71

(5) 45 year average based on years 1936-80

**MAY 1, 1995 FORECASTS  
WATER YEAR UNIMPAIRED RUNOFF**

Unimpaired Runoff in 1,000 Acre-Feet (1)													
HISTORICAL			DISTRIBUTION								FORECASTS		
50 Yr Avg (2)	Max of Record	Min of Record	Oct Thru Jan*	Feb *	Mar *	Apr *	May	Jun	Jul	Aug & Sep	Water Year Forecasts	Pct of Avg	80 % Probability Range (1)

856	1,964	165											
1,244	2,353	577											
3,145	5,150	1,484											
5,987	10,796	2,479	2,740	850	2,380	1,230	980	450	280	480	9,390	157	9,100 - 9,750
8,664	17,180	3,294	4,660	1,390	3,670	1,700	1,320	720	430	650	14,540	168	14,150 - 15,100

780	1,269	366											
2,417	4,400	666											
219	637	24											
291	562	32											
4,617	9,492	994	1,880	610	2,280	1,335	1,420	780	235	260	8,800	191	8,550 - 9,150

564	1,056	102											
181	292	30											
379	565	98											
2,390	4,926	369	1,000	320	990	555	910	525	130	70	4,500	188	4,350 - 4,660

616	1,234	66											
1,070	2,575	144											
318	705	59											
2,736	6,381	349	1,140	300	1,170	750	1,040	650	170	60	5,280	193	5,150 - 5,450

385	1,253	20	230	60	275	120	130	40	10	5	870	226	840 - 910
-----	-------	----	-----	----	-----	-----	-----	----	----	---	-----	-----	-----------

626	1,009	197											
748	1,800	129	170	70	250	190	350	270	60	15	1,375	184	1,320 - 1,450

471	929	88											
-----	-----	----	--	--	--	--	--	--	--	--	--	--	--

1,150	2,952	155	290	100	410	280	570	410	130	40	2,230	194	2,150 - 2,350
-------	-------	-----	-----	-----	-----	-----	-----	-----	-----	----	-------	-----	---------------

461	1,147	123											
770	1,661	258											
1,882	4,430	383	480	160	580	385	800	735	400	80	3,620	192	3,490 - 3,780

461	1,020	92											
966	2,859	150	260	70	355	220	450	420	210	45	2,030	210	1,970 - 2,140

1,337	2,964	308											
112	298	14											
248	653	71											
1,776	4,642	362	350	120	490	350	800	830	460	170	3,570	201	3,450 - 3,730

284	607	58											
1,669	4,294	383	280	100	370	260	740	820	460	150	3,180	191	3,050 - 3,300

444	1,402	92	65	30	120	85	175	170	70	30	745	168	710 - 800
-----	-------	----	----	----	-----	----	-----	-----	----	----	-----	-----	-----------

145	615	16	30	15	60	35	50	20	5	5	220	152	210 - 240
-----	-----	----	----	----	----	----	----	----	---	---	-----	-----	-----------

558	1,577	163											
716	2,309	175	85	45	145	140	310	250	120	70	1,165	163	1,100 - 1,240

\* Indicates observed runoff

**MAY 1, 1995 FORECASTS  
APRIL-JULY UNIMPAIRED RUNOFF**

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)				
	HISTORICAL			FORECASTS	
	50 Yr Avg (2)	Max of Record	Min of Record	Apr-Jul Forecasts	Pct of Avg
<b>NORTH COAST</b>					
<b>Trinity River</b>					
Total Inflow to Lewiston Lake	653	1,593	80	1,100	168
<b>Scott River</b>					
Near Fort Jones	200	NA	NA	350	175
<b>Klamath River</b>					
Total inflow to Upper Klamath Lake (3)				410	122
<b>NORTH LAHONTAN</b>					
<b>Truckee River</b>					
Lake Tahoe to Farad accretions	268	713	58	540	201
Lake Tahoe Rise (assuming gates closed, in feet)	1.5	3.75	0.23	3.0	200
<b>Carson River</b>					
West Fork at Woodfords	54	131	12	100	185
East Fork near Gardnerville	186	407	43	350	188
<b>Walker River</b>					
West Fork near Coleville	148	330	35	270	182
East Fork near Bridgeport	63	209	7	130	206
<b>SOUTH LAHONTAN</b>					
<b>Owens River</b>					
Total tributary flow to Owens River (4)	233	579	96	376	161

(1) See inside back cover for definition

(2) All 50 year averages are based on years 1941-1990 unless otherwise noted

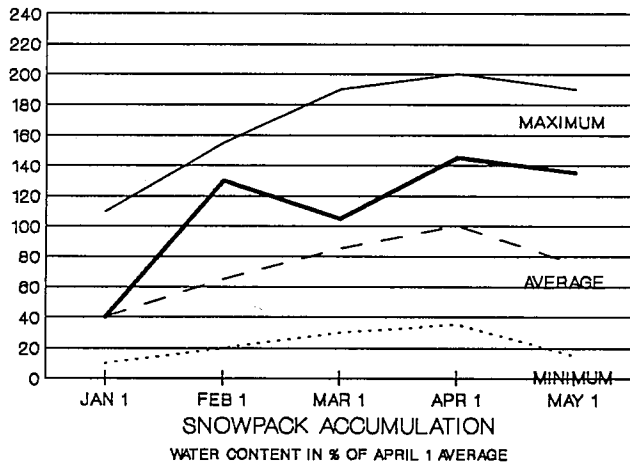
(3) Forecast by U.S. Natural Resources Conservation Service, Portland Oregon, for May through September.

(4) Forecast by Department of Water and Power, City of Los Angeles

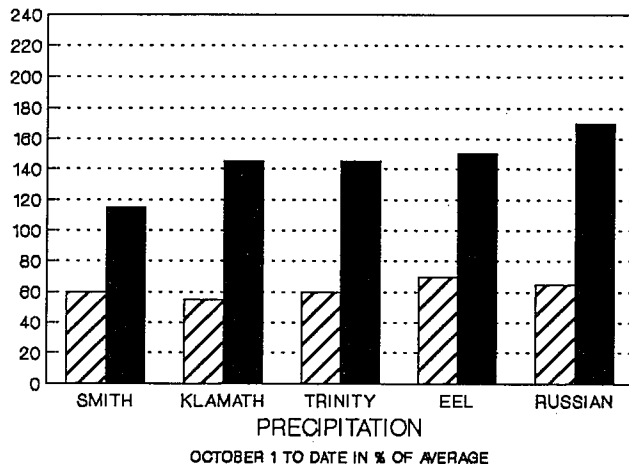


## NORTH COAST REGION

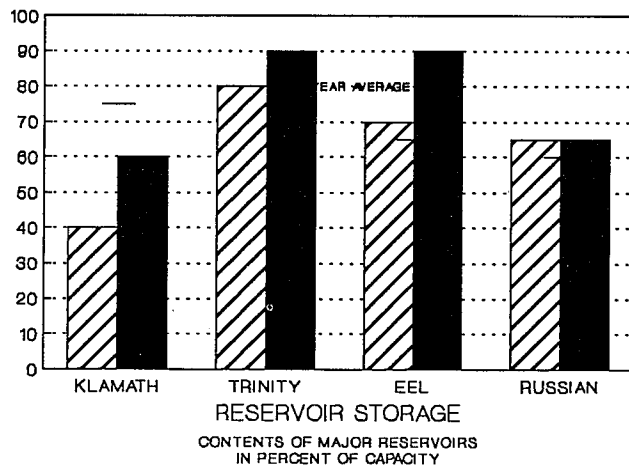
**SNOWPACK** - First of the month measurements made at 10 snow courses indicate an region wide snow water equivalent of 45.2 inches. This is 135 percent of the seasonal (April 1) average and about 185 percent of the May 1 average. Last year at this time the pack was holding 8.8 inches of water.



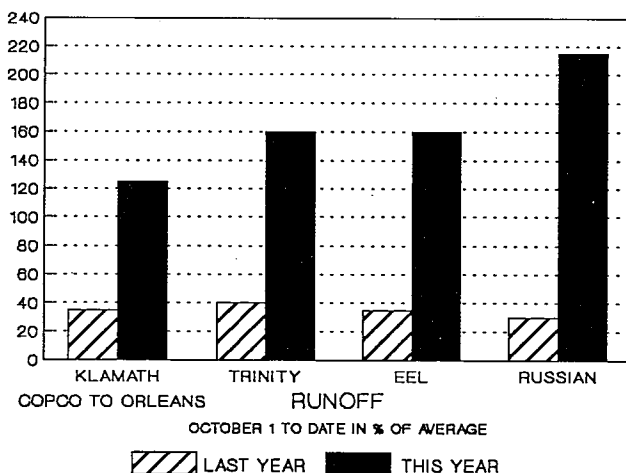
**PRECIPITATION** - Seasonal precipitation (October 1 through the end of April) on this region was 145 percent of normal. Precipitation last month was about 225 percent of the monthly average. Seasonal precipitation at this time last year stood at 60 percent of normal.



**RESERVOIR STORAGE** - First of the month storage in 7 reservoirs was 2.8 million acre-feet which is 110 percent of average. About 90 percent of available capacity was being used. Storage in these reservoirs at this time last year was 95 percent of average.

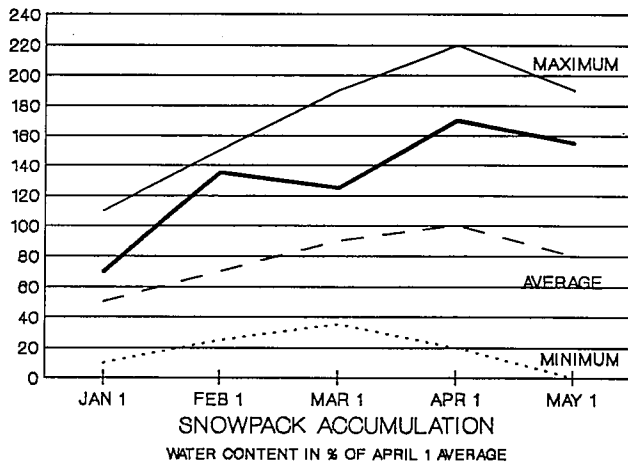


**RUNOFF** - Seasonal runoff of streams draining the region totaled 17 million acre-feet which is 155 percent of average for this period. Last year, runoff for the same period was 35 percent of average.

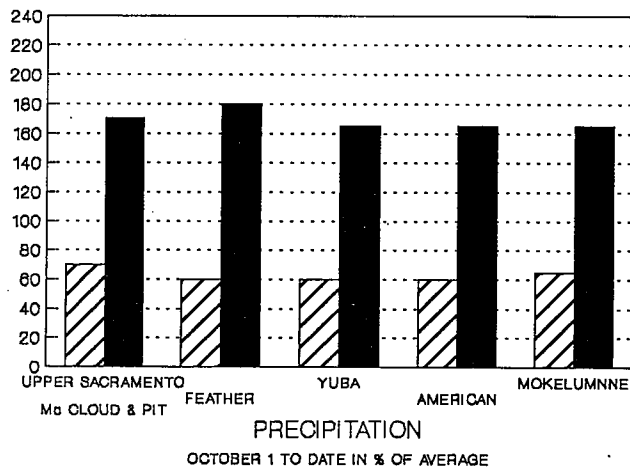


## SACRAMENTO RIVER REGION

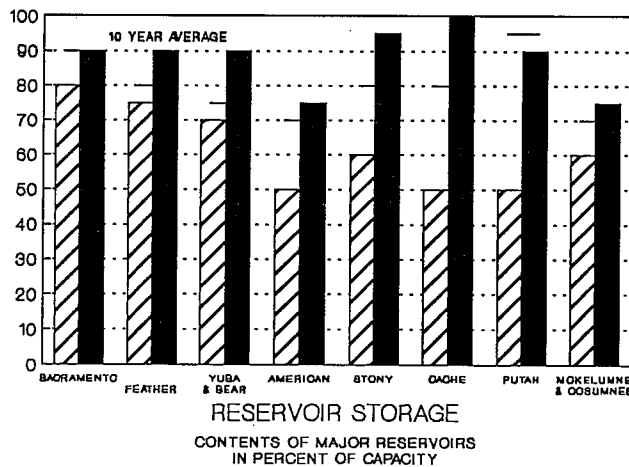
**SNOWPACK** - First of the month measurements made at 69 snow courses indicate a region-wide snow water equivalent of 53.1 inches. This is 210 percent of the average for this date and 155 percent of the seasonal average. Last year at this time, the snow pack was holding 7.6 inches of water.



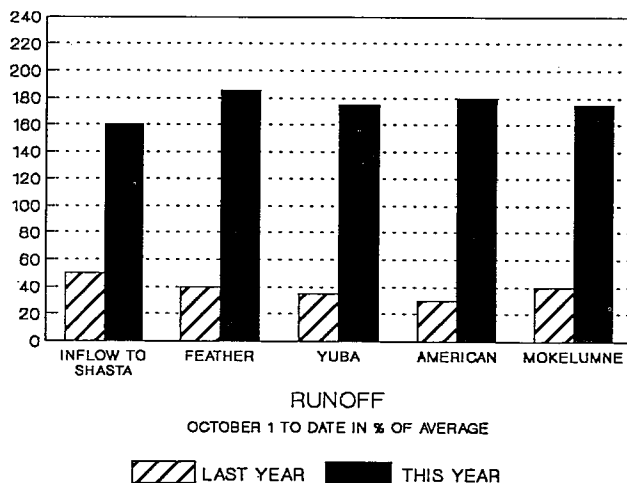
**PRECIPITATION** - Seasonal precipitation (October 1 through the end of last month) on the Sacramento Region was 175 percent of normal. Precipitation last month was about 185 percent of the monthly average. Seasonal precipitation at this time last year stood at 65 percent of average.



**RESERVOIR STORAGE** - First of the month storage in 43 reservoirs was 14 million acre-feet which is 110 percent of average. About 90 percent of available capacity was being used. Storage in these reservoirs was about 85 percent of average at this time last year.



**RUNOFF** - Seasonal runoff from streams draining into the region totaled 24 million acre-feet which is 175 percent of average for this period. Last year runoff for the same period was 40 percent of average.



The Sacramento River Region 40-30-30 Water Supply Index is forecasted to be 12.4 million acre-feet assuming median meteorological conditions for the remainder of the year. This classifies the year as "wet" in the Sacramento-San Joaquin Delta according to the State Water Resources Control Board. This time last year, "critical" water supply conditions were forecast.

## SAN JOAQUIN RIVER AND TULARE LAKE REGIONS

**SNOWPACK** - First of the month measurements made at 55 San Joaquin Region snow courses indicate a region wide snow water equivalent of 58.1 inches which is 175 percent of the seasonal (April 1) average and 235 percent of the average for May 1. Last year at this time, the pack was holding 9.2 inches of water.

At the same time, 44 Tulare Lake Region snow courses indicated a region-wide snow water equivalent of 34.1 inches which is 150 percent of the seasonal (April 1) average and 200 percent of the May 1 average. Last year at this time, the Region was holding 7.3 inches of water.

**PRECIPITATION** - Seasonal precipitation (October 1 through the end of last month) on the San Joaquin Region was 165 percent of normal. Precipitation last month was 160 percent of the monthly average. Seasonal precipitation at this time last year stood at 60 percent of normal.

Seasonal precipitation on the Tulare Lake Region was 160 percent of normal. Precipitation last month was 95 percent of the monthly average. Seasonal precipitation at this time last year stood at 75 percent of normal.

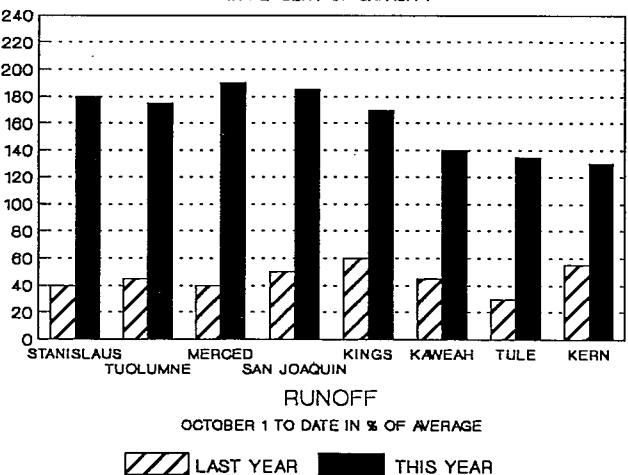
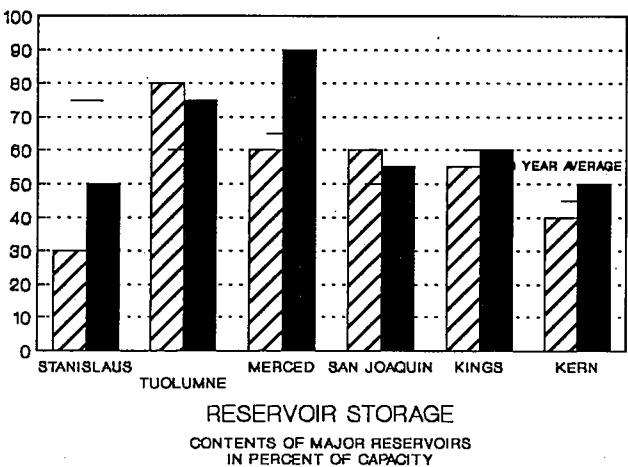
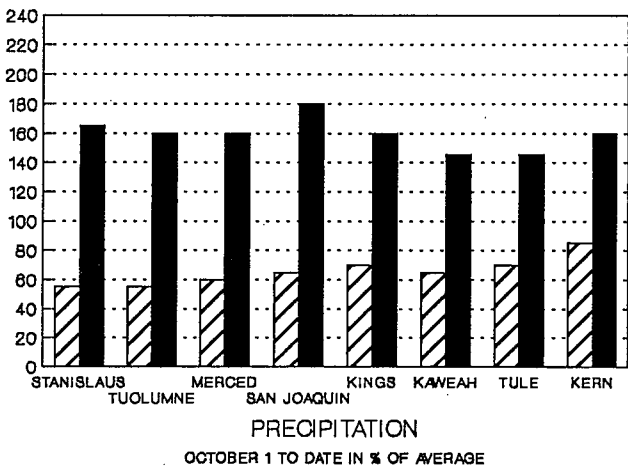
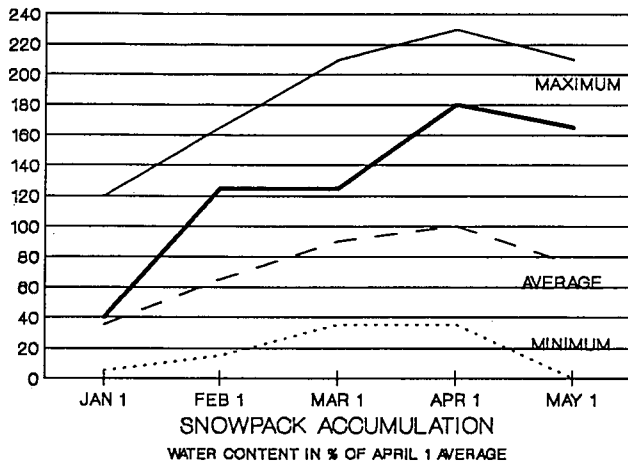
**RESERVOIR STORAGE** - First of the month storage in 33 San Joaquin Region reservoirs was 8.2 million acre-feet which is 110 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 95 percent of average.

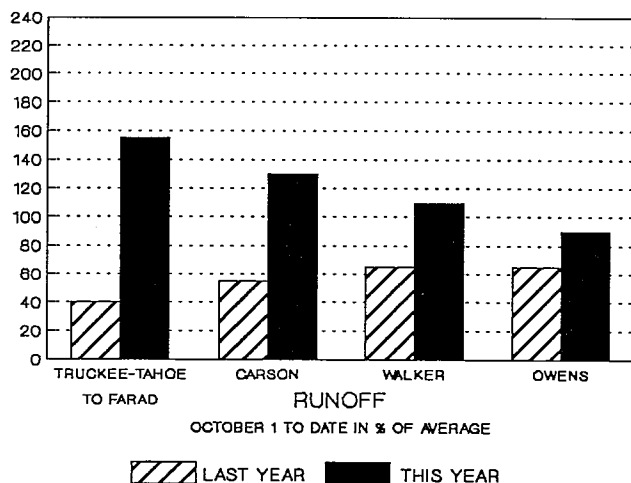
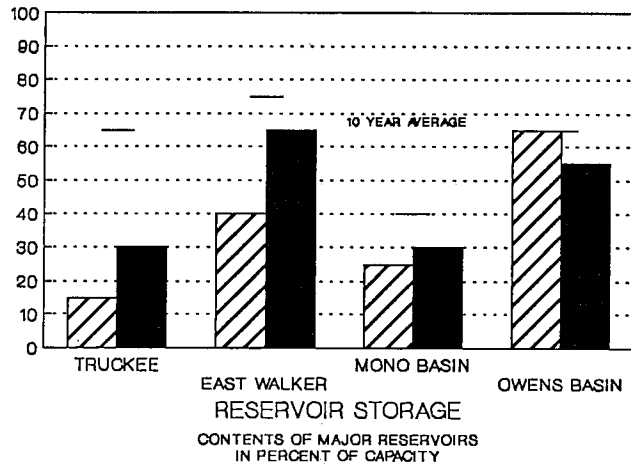
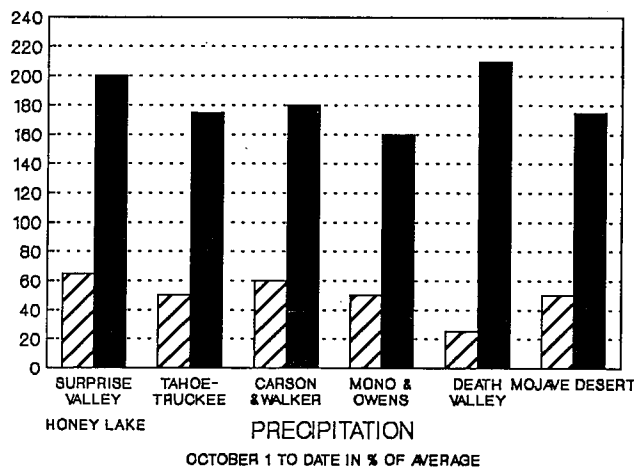
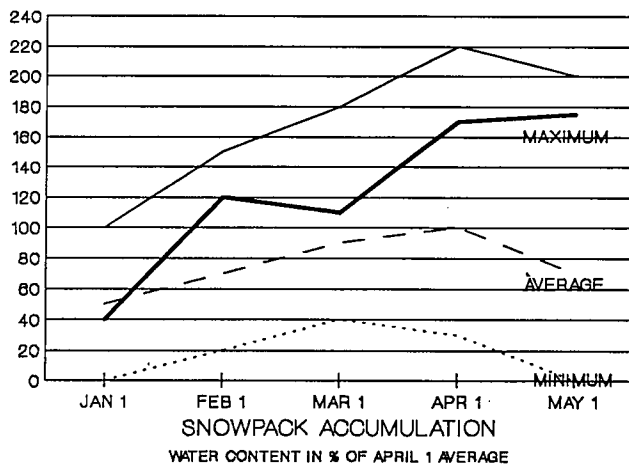
First of the month storage in 6 Tulare Lake Region reservoirs was 1.1 million acre-feet which is 120 percent of average. About 55 percent of available capacity was being used. Storage in these reservoirs at this time last year was 105 percent of average.

**RUNOFF** - Seasonal runoff of streams draining into the San Joaquin Region totaled 6.3 million acre-feet which is 185 percent of average for this period. Last year, runoff for this same period was 40 percent of average.

Seasonal runoff of streams draining into the Tulare Lake Region totaled 1.9 million acre-feet which is 150 percent of average for this period. Last year, runoff for this same period was 55 percent of average.

The San Joaquin Region 60-20-20 Water Supply Index is forecasted to be 5.6 MAF which classifies the year as wet.





## NORTH AND SOUTH LAHONTAN REGION

**SNOWPACK** - First of the month measurements made at 8 North Lahontan snow courses and 3 sensors indicate a region wide snow water equivalent of 51 inches which is 165 percent of the seasonal (April 1) average and 215 percent of the May 1 average. Last year at this time, the pack was holding 7.9 inches of water.

At the same time, 7 South Lahontan courses indicated a region-wide snow water equivalent of 38.5 inches which is 185 percent of the seasonal (April 1) average and 250 percent for this date. Last year at this time, the pack was holding 8.1 inches of water.

**PRECIPITATION** - Seasonal precipitation (October 1 through the end of last month) over the North Lahontan region averaged 185 percent of normal. Precipitation last month was 215 percent of the monthly average. Seasonal precipitation at this time last year stood at 55 percent of normal.

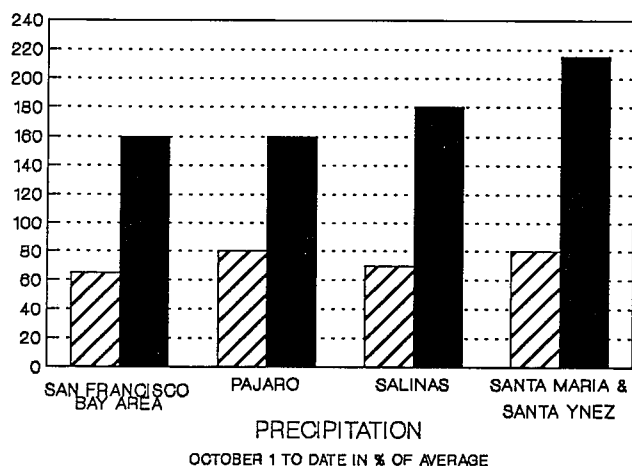
Seasonal precipitation over the South Lahontan region was about 175 percent of normal. Seasonal precipitation at this time last year stood at 45 percent of normal.

**RESERVOIR STORAGE** - First of the month storage in 5 North Lahontan reservoirs was 355 thousand acre-feet which is 55 percent of average. About 35 percent of available capacity was being used. Storage in these reservoirs at this time last year was 30 percent of average. Lake Tahoe was 1.2 feet above its natural rim.

First of the month storage in 8 South Lahontan reservoirs was 240 thousand acre-feet which is 90 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 95 percent of average.

**RUNOFF** - Seasonal runoff of streams draining the North Lahontan region totaled 586 thousand acre-feet which is 140 percent of average for this period. Last year, runoff for this same period was 50 percent of average.

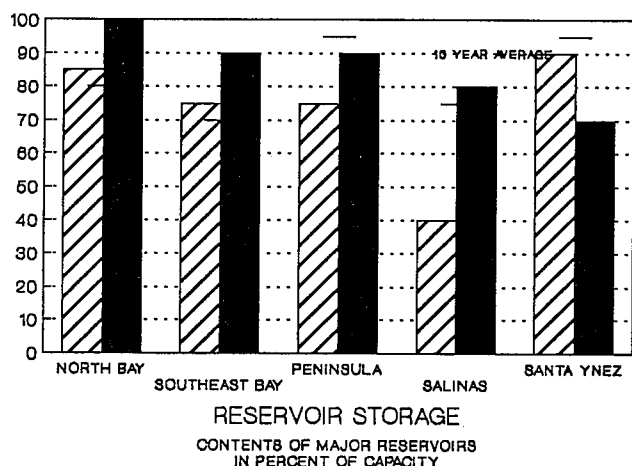
Seasonal runoff of the Owens River above Long Valley totaled 71 thousand acre-feet which is 90 percent of average



## SAN FRANCISCO AND CENTRAL COAST REGIONS

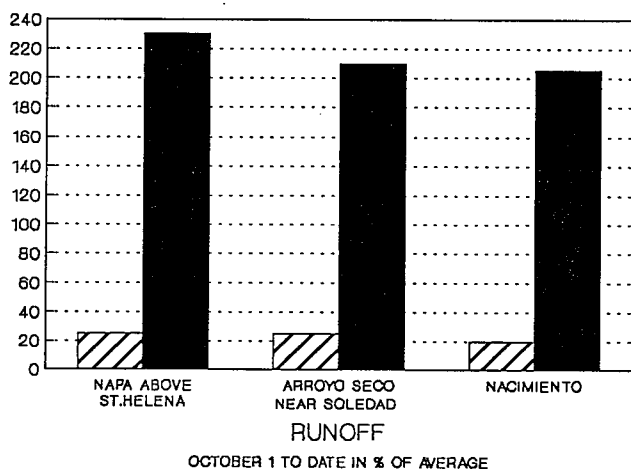
**PRECIPITATION** - Seasonal precipitation (October 1 through the end of last month) on the San Francisco Bay region was 160 percent of normal. Precipitation last month was 105 percent of the monthly average. Seasonal precipitation at this time last year stood at 65 percent of normal.

Seasonal precipitation on the Central Coast region averaged 185 percent of normal. Precipitation last month was 100 percent of the monthly average. Seasonal precipitation at this time last year stood at 75 percent of normal.



**RESERVOIR STORAGE** - First of the month storage in 18 major Bay area reservoirs was 645 thousand acre-feet which is 125 percent of average. About 90 percent of available capacity was being used. Storage in these reservoirs at this time last year was 100 percent of average.

First of the month storage in 6 major Central Coast reservoirs was 760 thousand acre-feet which is 110 percent of average. About 80 percent of available capacity was being used. Storage in these reservoirs at this time last year was 75 percent of average.



**RUNOFF** - Seasonal runoff of the Napa River in the San Francisco Bay region totaled 155 thousand acre-feet which is 230 percent of average for this period. Last year, runoff for this same period was 25 percent of average.

Seasonal runoff of selected Central Coast streams totaled 655 thousand acre-feet which is 205 percent of average for this period. Last year, runoff for this same period was 20 percent of average.

▨ LAST YEAR    ■ THIS YEAR

## **SOUTH COAST AND COLORADO RIVER REGIONS**

**PRECIPITATION** - Seasonal precipitation (October through the end of last month) on the South Coast was 175 percent of normal. April precipitation was 70% of average. Seasonal precipitation at this time last year was 65 percent of normal.

Seasonal precipitation in the Colorado River Region Desert area was 185 percent of normal, with April precipitation at 160% of average. Seasonal precipitation at this time last year was 70 percent of the average.

**RUNOFF** - Seasonal runoff from selected South Coast streams totaled 120 thousand acre-feet which is 230 percent of average. Last year, runoff for the same period was 65 percent of average.

The April through July inflow to Lake Powell is forecasted to be 9.5 million acre-feet which will be 123 percent of normal.

**RESERVOIR STORAGE** - March 31 storage in 29 major South Coast region reservoirs was 1.9 million acre-feet or 140 percent of average. About 95 percent of available capacity was being used. Storage in these reservoirs at this time last year was 120 percent of average.

First of the month combined storage in Lakes Powell, Mead, Mohave and Havasu was about 39.2 million acre-feet which is 105 percent of average. About 75 percent of available capacity was being used. One year ago, these reservoirs were storing 110 percent of average.

**UPPER COLORADO RIVER BASIN** - The first of the month snowpack, according to the U.S. Soil Conservation Service reports was 130 percent of average and ranges from 120 percent in the Green drainage to 140 percent in the San Juan.

### **CENTRAL VALLEY PROJECT**

Based on May 1 conditions, Bureau of Reclamation water year forecasts for runoff into CVP reservoirs are: Trinity--190% of average, Shasta--170% of average, American--196% of average, Stanislaus--199% of average, San Joaquin above Friant--199% of average. As of April 30, 1995 CVP storage was 9.3 MAF which is a increase of 1.8 MAF compared to one year ago, and is approximately 111% of normal for that date.

The Bureau of Reclamation announced increased water allocations for the CVP on April 10, 1995. All customers of the CVP will receive 100% of their contract supply in 1995. Reclamation has also announced that Folsom Reservoir storage will be lowered through mid-May in order to regulate American River flows under the anticipated large snowmelt conditions in the American Basin.

### **STATE WATER PROJECT**

As of May 1, State Water Project (SWP) conservation storage (Lake Oroville plus the State share of San Luis Reservoir) held 4.23 million acre-feet of water. April continued the very wet trend and storage remained about 660 thousand acre-feet greater than at this same time last year. Approved entitlement deliveries to State water contractors remains at 100 percent of current demand, which is approximately 2.8 million acre-feet.

# MAJOR WATER DISTRIBUTION PROJECTS

## RESERVOIR STORAGE

(AVERAGES BASED ON PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	STORAGE AS OF APRIL 30		
			1994 1,000 AF	1995 1,000 AF	PERCENT AVERAGE
<u>STATE WATER PROJECT</u>					
Oroville	3,540	2,961	2,636	3,159	107
San Luis SWP	1,060	975	933	1,072	110
Lake Del Valle	77	39	34	40	103
Silverwood	73	67	72	71	106
Pyramid Lake	171	164	160	160	98
Castaic Lake	324	282	278	312	111
Perris Reservoir	132	115	115	118	103
<u>CENTRAL VALLEY PROJECT</u>					
Clair Engle Lake	2,450	2,080	1,980	2,262	109
Shasta Lake	4,552	4,096	3,534	4,165	102
Whiskeytown	241	231	239	230	99
Folsom	975	739	446	757	102
New Melones	2,420	1,549	692	1,184	76
Millerton Lake	521	316	377	347	110
San Luis CVP	980	850	859	955	112
<u>COLORADO RIVER PROJECT</u>					
Lake Mead	26,159	19,574	20,803	20,100	103
Lake Powell	25,002	15,098	17,720	16,790	111
Lake Mohave	1,810	1,634	1,712	1,741	107
Lake Havasu	619	579	569	597	103
<u>EAST BAY MUNICIPAL UTILITY DISTRICT</u>					
Pardee	210	180	183	207	115
Camanche	431	268	239	276	103
East Bay (4 reservoirs)	151	132	130	145	110
<u>CITY &amp; COUNTY OF SAN FRANCISCO</u>					
Hetch Hetchy	360	151	236	160	106
Cherry Lake	268	135	255	193	143
Lake Eleanor	26	13	24	27	208
East bay/Peninsula (4 reservoirs)	225	176	185	214	122
<u>CITY OF LOS ANGELES(DWP)</u>					
Crowley Lake(Long Valley)	183	127	123	110	86
Grant Lake	48	25	15	19	70
Other Aqueduct Storage(6 reservoirs)	95	75	69	63	84

DEPARTMENT OF WATER RESOURCES - CALIFORNIA DATA EXCHANGE CENTER  
TELEMETERED SNOW WATER EQUIVALENTS - MAY 1, 1995

BASIN NAME STATION NAME	AGENCY	ELEV FEET	APR 1 AVG	TODAY	INCHES OF WATER EQUIVALENT PERCENT OF APR 1	24 HRS AGO	1 WEEK AGO
TRINITY RIVER							
PETERSON FLAT	USBR	7150	----	25.6	----	25.4	26.9
RED ROCK MOUNTAIN	USBR	6700	39.6	77.1	195%	76.5	77.1
BONANZA KING	USBR	6450	40.5	----	----	----	49.4e
SHIMMY LAKE	USBR	6200	40.3	78.4	195%	75.8	77.8
MIDDLE BOULDER #3	USBR	6200	28.3	----	----	----	----
HIGHLAND LAKES	USBR	6030	29.9	----	----	----	----
SCOTTS MOUNTAIN	USBR	5900	----	27.2	----	27.8	30.5
MUMBO BASIN	USBR	5700	22.4	----	----	----	----
BIG FLAT	USBR	5100	----	20.6	----	20.7	23.3
SACRAMENTO RIVER							
CEDAR PASS	SCS	7100	18.1	29.4	162%	29.2	29.2
BLACKS MOUNTAIN	DWR	7100	----	26.4	----	25.8	25.2
SAND FLAT	USBR	6750	42.4	58.3	137%	57.3	59.0e
MEDICINE LAKE	USBR	6700	----	39.5	----	39.4	39.4
ADIN MOUNTAIN	SCS	6350	13.6	----	----	----	19.6
SNOW MOUNTAIN	USBR	5950	27.0	36.4	135%	36.8	39.0e
SLATE CREEK	USBR	5600	29.0	42.7	147%	43.1	47.4e
STOUTS MEADOW	USBR	5400	36.0	55.3	154%	55.9	61.0
FEATHER RIVER							
KETTLEROCK	DWR	7300	25.5	50.3	197%	48.3	48.1
GRIZZLY	DWR	6900	29.7	50.2	169%	50.5	51.0
PILOT PEAK	DWR	6800	52.6	55.0e	105%	55.0e	73.6
GOLD LAKE	DWR	6750	36.5	68.8	188%	68.6	65.4
HUMBURG	DWR	6500	28.0	62.4	223%	62.4	66.2
RATTLESNAKE	DWR	6100	14.0	41.3	295%	42.0	48.0
BUCKS LAKE	DWR	5750	44.7	65.4	146%	66.0	69.8
FOUR TREES	DWR	5150	20.0	28.9	145%	30.2	36.2
YUBA & AMERICAN RIV							
LAKE LOIS	DWR	8800	----	80.4	----	79.7	75.1
SCHNEIDERS	SMUD	8750	34.5	----	----	----	80.2
CAPLES LAKE COURSE	USBR	7800	30.9	57.5	186%	57.1	56.4
ALPHA	SMUD	7600	35.9	66.9	186%	68.0	68.5
BETA	DWR	7600	----	62.6	----	62.3	62.2
FORNI RIDGE	USBR	7600	37.0	55.5	150%	54.5	55.9
SILVER LAKE	USBR	7100	22.7	44.5	196%	45.4	47.0
CENT SIERRA SNOW LAB	USFS	6950	33.6	60.9	181%	60.5	62.6
HUYSINK	USBR	6600	42.6	56.9	134%	----	----
VAN VLECK	SMUD	6700	35.9	----	----	----	----
ROBBS SADDLE	SMUD	5900	21.4	31.6	148%	33.5	40.1
GREEK STORE	USBR	5600	21.0	38.0	181%	38.8	42.3
BLUE CANYON	USBR	5280	9.0	.0	0%	.0	.2
ROBBS POWERHOUSE	SMUD	5150	5.2	.0	0%	.0	----
MOKEL. & STANIS. RIV							
DEADMAN CREEK	USBR	9250	37.2	58.0	156%	57.2	55.8
HIGHLAND MEADOW	USBR	8800	47.9	75.0	157%	75.0	75.0
GIANELLI MEADOW	USBR	8350	55.5	85.8	155%	83.9	76.8
LOWER RELIEF VALLEY	DWR	8100	41.2	84.1	204%	84.1	78.9
BLUE LAKES	SCS	8000	33.1	61.4	185%	61.0	60.0
MUD LAKE	SMUD	7900	44.9	86.8	193%	87.5	86.0
STANISLAUS MEADOW	USBR	7750	47.5	88.6r	187%	88.6r	87.2
BLOODS CREEK	USBR	7200	35.5	----	----	----	----
BLACK SPRINGS	USBR	6500	32.0	----	----	----	----
TUOLUMNE & MERCED R.							
DANA MEADOWS	DWR	9800	27.7	----	----	----	----
SLIDE CANYON	DWR	9200	----	77.2	----	75.2	72.6
SNOW FLAT	DWR	8700	44.1	72.0	163%	74.0	76.0
TUOLUMNE MEADOWS	DWR	8600	22.6	30.1	133%	30.1	31.9
HORSE MEADOW	DWR	8400	48.6	81.7	168%	80.4	76.5
OSTRANDER LAKE	DWR	8200	34.8	60.1	173%	60.1	66.0
PARADISE	DWR	7650	----	68.6	----	68.6r	72.5
GIN FLAT	DWR	7050	34.2	41.4	121%	43.7	44.9
LOWER KIBBIE	DWR	6600	27.4	30.9	113%	32.2	36.1
SAN JOAQUIN RIVER							
VOLCANIC KNOB	USBR	10100	30.1	37.9	126%	37.3	37.3
AGNEW PASS	USBR	9450	32.3	64.4	199%	63.7	60.5
KAISER POINT	USBR	9200	37.8	59.4	157%	59.6	58.5e
GREEN MOUNTAIN	USBR	7900	30.8	49.7	161%	51.4	51.5e
TAMARACK SUMMIT	USBR	7600	30.5	48.2	158%	49.8	55.1e



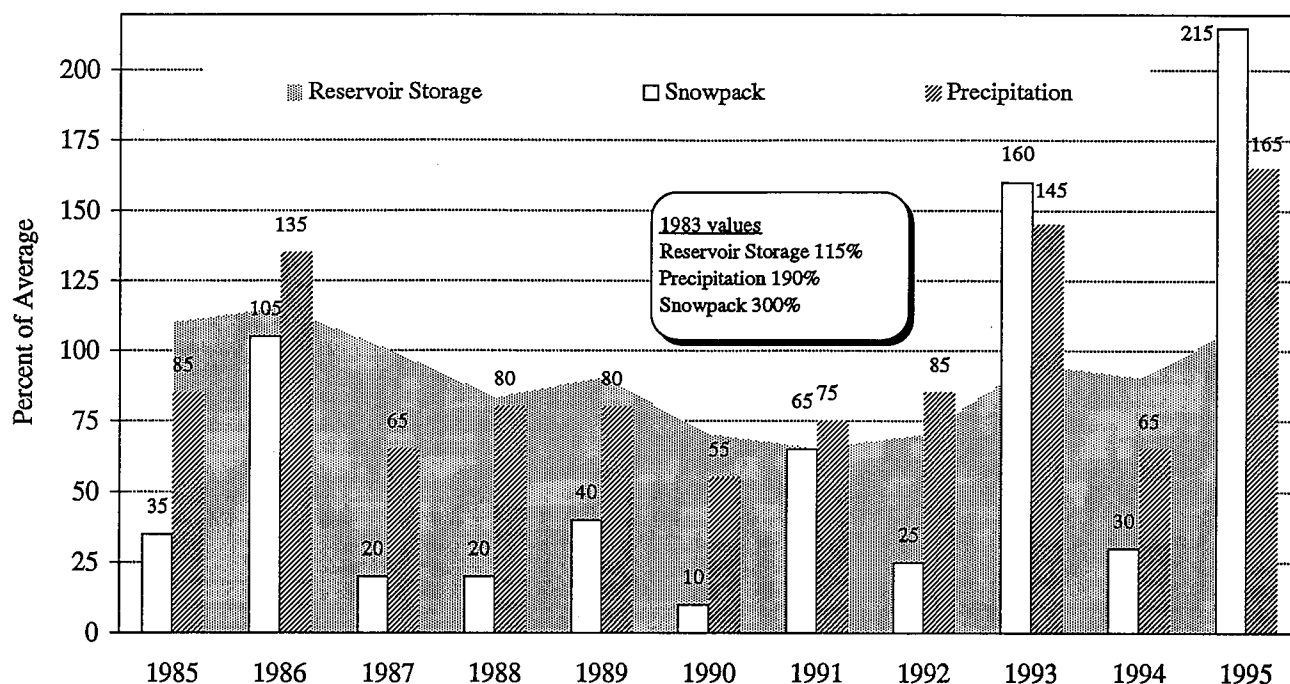
DEPARTMENT OF WATER RESOURCES - CALIFORNIA DATA EXCHANGE CENTER  
TELEMETERED SNOW WATER EQUIVALENTS - MAY 1, 1995

BASIN NAME STATION NAME	AGENCY	ELEV FEET	APR 1 AVG	TODAY	INCHES OF WATER EQUIVALENT PERCENT OF APR 1	24 HRS AGO	1 WEEK AGO
CHILKOOT MEADOW	USBR	7150	38.0	57.1	150%	58.3	60.4e
HUNTINGTON LAKE	USBR	7000	20.1	35.2	175%	36.8	42.0e
GRAVEYARD MEADOW	USBR	6900	18.8	29.4	156%	30.7	34.5e
POISON RIDGE	USBR	6900	28.9	40.2	139%	41.3	48.2e
KINGS RIVER							
BISHOP PASS	DWR	11200	----	----	----	----	----
CHARLOTTE LAKE	DWR	10400	----	40.4	----	40.9	44.5
STATE LAKES	COE	10400	29.0	----	----	----	----
MITCHELL MEADOW	COE	10375	32.9	52.5	160%	55.3	63.1
BLACKCAP BASIN	USBR	10300	34.3	68.0	198%	66.7	69.3
UPPER BURNT CORRAL	DWR	9700	34.6	66.7	193%	63.4	71.9
WEST WOODCHUCK MDW	COE	9100	32.8	63.0e	192%	63.0e	64.8e
BIG MEADOWS	DWR	7600	25.9	34.7	134%	33.2	34.2
KAWEAH & TULE RIVERS							
QUAKING ASPEN	DWR	7200	21.0	24.0	114%	24.8	29.2
GIANT FOREST	COE	6400	10.0	2.4	24%	3.7	9.7
KERN RIVER							
UPPER TYNDALL CREEK	COE	11500	27.7	37.1	134%	36.7	37.2
CRABTREE	DWR	10700	19.8	25.2	127%	24.5	25.4
CHAGOOA PLATEAU	DWR	10300	21.8	32.7	150%	33.3	35.3
PASCOES	COE	9150	24.9	48.8	196%	49.9	52.4
TUNNEL	DWR	8950	15.6	12.7	81%	14.0	20.5
WET MEADOW	COE	8900	30.3	----	----	----	----
CASA VIEJA MDW	DWR	8400	20.9	20.3	97%	21.0	24.9
BEACH MEADOW	DWR	7650	11.0	.0	0%	.0	2.5
SURPRISE VALLEY AREA							
DISMAL SWAMP	SCS	7050	29.2	28.7	98%	29.0	31.3
TRUCKEE RIVER							
MOUNT ROSE SKI AREA	SCS	8850	38.5	85.5	222%	84.7	81.0
INDEPENDENCE LAKE	SCS	8450	41.4	78.4	189%	78.2	75.7
BIG MEADOWS	SCS	8700	25.7	38.0	148%	38.1	38.9
SQUAW VALLEY GOLD C	SCS	7800	46.5 117.1	252% 116.3	----	----	----
INDEPENDENCE CAMP	SCS	7000	21.8	32.4	149%	32.5	35.7
INDEPENDENCE CREEK	SCS	6500	12.7	13.4	106%	14.4	19.7
LAKE TAHOE BASIN							
HEAVENLY VALLEY	SCS	8800	28.1	----	----	----	----
HAGANS MEADOW	SCS	8000	16.5	28.4	172%	28.7	30.1
MARLETTE LAKE	SCS	8000	21.1	44.9	213%	44.6	45.9
ECHO PEAK	SCS	7800	39.5	73.9	187%	73.4	73.7
RUBICON NO. 2	SCS	7500	29.1	53.2	183%	53.3	50.8
WARD CREEK NO. 3	SCS	6750	39.4	54.7	139%	55.0	53.3
TAHOE CITY CROSS	SCS	6750	----	14.6	----	15.6	21.6
FALLEN LEAF LAKE	SCS	6300	7.0	.1	1%	.0	.0
CARSON RIVER							
EBBETTS PASS	SCS	8700	38.8	73.3	189%	72.5	70.3
POISON FLAT	SCS	7900	16.2	23.9	148%	22.8	27.1
WALKER RIVER							
VIRGINIA LAKES RIDGE	SCS	9200	20.3	31.9	157%	31.6	31.9
LOBDELL LAKE	SCS	9200	17.3	32.1	186%	32.6	33.8
SONORA PASS BRIDGE	SCS	8750	26.0	44.4	171%	44.3	44.1
LEAVITT MEADOWS	SCS	7200	8.0	6.6	83%	8.0	14.1
OWENS RIVER/MONO LK.							
GEM PASS	LADWP	10750	31.7	73.9	233%	73.2	71.2
SAWMILL MEADOW	DWR	10300	19.4	23.9	123%	24.6	22.6
COTTONWOOD LAKES	LADWP	10200	11.6	----	----	----	----
BIG PINE #3	LADWP	9800	17.9	32.1	179%	32.7	36.0
SOUTH LAKE	LADWP	9600	16.0	30.7	192%	31.1	32.4
MAMMOTH PASS (6T)	USBR	9500	42.4	73.6	174%	73.2	71.0e
MAMMOTH PASS (RP)	USBR	----	----	77.6	----	77.2	----
ROCK CREEK	LADWP	8200	----	23.5	----	23.8	26.0

NORMAL SNOWPACK ACCUMULATION EXPRESSED AS A PERCENT OF APRIL 1ST AVERAGE

AREA	JANUARY	FEBRUARY	MARCH	APRIL	MAY
CENTRAL VALLEY NORTH	45	70	90	100	75
CENTRAL VALLEY SOUTH	45	65	85	100	80
NORTH COAST	40	60	85	100	80

## May 1 Statewide Conditions



### \*\*\*\*\* SNOWLINES \*\*\*\*\*

**FORECASTS** contained in this bulletin include the effects of the storm that hammered California right at the end of the month and continued the first two days in May. This storm caused an increase in the runoff forecast on the four Northern California basins of about 25% of their April -July flow.

**SNOW SURVEYS** is moving. Sometime around the 1st of July various functions of Operations and Maintenance and Flood Management will be colocated with the Bureau of Reclamation and National Weather Service at our new quarters.

Our new phone numbers are:

Frank Gehrke	916-574-2635
Dave Hart	916-574-2636
Shawn Perkins	916-574-2637
Bob Newton	916-574-2638
Matt Colwell	916-574-2633
Dudley McFadden	916-574-2634

The address for the snow surveys home page <http://snow.water.ca.gov> will remain the same.

**WESTERN SNOW CONFERENCE** annual meeting in 1996 will be sponsored by the North Pacific Area. The meeting will be held in April at the Inn of the Seventh Mountain in Bend, OR.

**DATES** being considered for the 1995 Cooperator's Meeting are December 6-8. The location will be at the Mammoth Mountain Inn in Mammoth, CA.

SNOWPACK - Snow data is a major index of spring and summer runoff from Sierra Nevada watersheds. April 1 data historically reflects the magnitude of the snowpack at or near the maximum seasonal accumulation. Averages are based on April 1 data for the period 1941-1990 (50 years, except for data sites established after 1941).

PRECIPITATION - Averages are based on April 1 data for the period 1941-1990 (50 years, except for data sites established after 1941).

RUNOFF AND FORECASTS - Runoff data and runoff forecasts are shown as unimpaired values. Unimpaired runoff represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. Forecast of runoff assumes median conditions subsequent to the date of forecast.

Runoff probability ranges are statistically derived from historical data. The 80 percent probability range is comprised of the 90 percent exceedence level value and the 10 percent exceedence level value. This means that actual runoff should fall within the stated limits eight times out of ten.

Runoff averages for most streams are based on the period 1941-1990. For more details contact California Cooperative Snow Surveys, P.O. Box 942836, Sacramento, CA 94236-0001, (916) 653-8255 or [gridley@water.ca.gov](mailto:gridley@water.ca.gov).

#### INDICES OF WATER AVAILABILITY

The Sacramento River Hydrologic Region 40-30-30 Water Supply Index. The 40-30-30 represent the percentage weight given to the three variables in the formula for the index. The first variable is the forecasted unimpaired runoff from April through July (*40 Percent*). The second variable is the forecasted unimpaired runoff from October through March (*30 Percent*). The third variable is the previous year's index with a cap to account for required flood control releases during wet years. The basins used in this computation are those used in the Sacramento River water year unimpaired runoff.

The Sacramento River water year unimpaired runoff is the sum of: Sacramento River above Bend Bridge, Feather River Inflow to Lake Oroville, Yuba River near Smartville and American River Inflow to Folsom Lake.

The San Joaquin River Hydrologic Region 60-20-20 Water Supply Index. In a similar manner, the 60-20-20 represents the percentage weights on April through July runoff, October through March runoff and previous year's index. The San Joaquin River unimpaired runoff is the sum of: Stanislaus River Inflow to New Melones Lake, Tuolumne River Inflow to New Don Pedro Reservoir, Merced River Inflow to Lake McClure and San Joaquin River Inflow to Millerton Lake.

Prior month unimpaired runoff is the sum of the runoff in the eight major rivers used in the two above indices.

On the front cover: The Horse Meadow snow pillow in the Emigrant Wilderness, Stanislaus National Forest. This is a typical "wilderness type" snow pillow designed to be of low visual impact.

Photo by Dave Hart

State of California -The Resources Agency  
DEPARTMENT OF WATER RESOURCES  
P. O. Box 942836  
Sacramento, CA 94236-0001

# First Class

